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ABSTRACT

Noting that it is by studying children's regular activities and their roles and interpersonal relationships that we come to understand how children develop as members of their cultural groups, this study examined children growing up in urban settings in a variety of societies. The study used an ecological perspective largely based on Bronfenbrenner's framework. Participating in the study were 130 children, ages 28 to 45 months at Time 1, and their parents living in medium sized cities; this paper focuses on findings from 62 children from the United States, Russia, and Estonia. Data were collected by means of parent interviews and questionnaires, and from observations of children for 20 hours over the course of a week. Activities of interest included lessons, work, play, exploration, entertainment, and conversation. Findings indicated that middle-class parents in all three countries were more likely to value self-direction for their children and were more interested in freedom for their children than were working-class parents, who were more interested in controlling and disciplining their children. There was considerable similarity across cultures in the activities in which children were engaged. Children all spent the majority of their time in play, with lessons, work, and conversation occupying much less time. Children in middle-class U.S. and Estonian homes were more likely than their working-class counterparts to be involved in activities possibly related to subsequent academic competence, such as academic or skill/nature lessons, play with academic objects, and conversation with adults. In Estonia and Russia, middle-class children were viewed by their teachers and parents as more competent academically than were children from working-class families. There were also cultural and social class variations in the relationship of preschool children's activities to teacher perceptions of competence at the end of their first year in school. (Contains 14 references.) (KB)

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The effects of young children's everyday activities: A longitudinal study in the United States, Russia, and Estonia

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Introduction

Why is it important to study young children's engagement in their typically-occurring everyday activities? Scholars have long recognized that children become socialized in the course of engaging with significant others in the practices considered important in their cultural group (Bronfenbrenner, 1995; Bronfenbrenner & Morris, 1998; Tudge & Scrimsher, in press; Vygotsky, 1987, 1997). Children become who they are in the very process of doing. Cultural values and beliefs are learned in similar fashion, as some children are encouraged to engage in some types of activities and discouraged from others. In the course of studying what children do on a regular basis, how they become involved in those activities, and their roles and relationship with their partners we come to understand the ways in which children develop as members of their cultural groups.

However, little is known about how children of preschool age spend their time, at least in industrialized societies. The majority of research on children's everyday activities and interactions in everyday life has been conducted by cultural anthropologists and cross-cultural developmental psychologists in non-industrialized societies. Even less attention has been paid to the long-term effects of children's differential engagement in activities across different contexts within societies, for example as a function of social class or ethnicity.

Our goal has been to examine children growing up in urban settings in a variety of societies. To do so, we have employed an ecological perspective that is largely based on Bronfenbrenner's recent writings (1989, 1993, 1995; Bronfenbrenner & Morris, 1998). This framework, in common with other ecological perspectives (see Tudge, Gray, & Hogan, 1997), has at its center the multidirectional interrelations between developing individuals and the contexts they inhabit. Specifically, we used a Process-Person-Context-Time (PPCT) design, one that combines elements of the developing Person, Processes of interaction between the person and those around, Context, and Time to understand the manner and implications of young children's use of time. The factors involved in a PPCT design will be addressed in the following order—context, process, person, and time.

Context. Bronfenbrenner is known as a theorist who differentiated various layers of context, namely the microsystem, mesosystem, exosystem, and macrosystem. Bronfenbrenner argued that to understand development, the research design must involve "a contrast between at least two macrosystems most relevant to the developmental phenomenon under investigation" (1993, p. 39). A macrosystem involves any group whose members share value or belief systems, "resources, hazards, lifestyles, opportunity structures, life course options and patterns of social interchange" (Bronfenbrenner, 1993, p. 25). Thus, one can satisfy the minimum requirement by conducting cross-cultural research as it is typically understood, or by examining groups that are distinguished by race, ethnicity, or social class within a single society. However, an emphasis on context by scholars who refer primarily to Bronfenbrenner's 1979 book incorrectly gives too little weight to the other aspects of his systems theory.

Process. Bronfenbrenner and Crouter (1983) argued that research that only relates a macrosystem or some other level of context to an outcome of interest simply employs a "social address" model. What is necessary is to examine the processes that might explain the connection between these structural characteristics and the outcomes of interest. Bronfenbrenner discussed processes in two ways, one of which relates to mediating mechanisms such as parental values, beliefs, or expectations. However, he paid greater attention to processes of a different sort, termed "proximal processes," that involve the interactions "between an active, evolving biopsychological human organism and the persons, objects, and symbols in its immediate environment" and constitute the "engines of development" (Bronfenbrenner,

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1995, p. 620). Examples cited by Bronfenbrenner (1995) include parent-child and child-child activities, group or solitary play, reading, and so on. In other words, proximal processes are the essence of what occurs in the course of everyday activities by developing individuals and their social partners.

Person. The third factor in Bronfenbrenner's theory is the person. Most scholars who restrict their citations of Bronfenbrenner's work to his first monograph (1979) imply that the theory is only contextual, examining the impact of different levels of context on the developing individual. As is clear from his work over the past two decades, however, the theory is truly ecological in that individual and context are related bi-directionally. Children influence their own environments (for example by initiating new activities, drawing others into them) while at the same time being influenced by those around them. At the level of the person, Bronfenbrenner (1989, 1993) wrote about the "developmentally-instigative" characteristics of individuals, such as their directive beliefs, their activity level, their temperament, and their goals and motivations. All of these have an impact on the way in which the context is experienced by the developing individual as well as the types of contexts to which the individual is drawn. It is also important to consider "personal stimulus" characteristics, such as gender or skin color, that have an influence on the ways in which other people deal with the developing individual and the goals, values, and expectations they have for that individual. Using slightly different wording to capture the same phenomena, Bronfenbrenner and Morris (1998) discussed "force," "resource," and "demand" characteristics. Stimulation in the home is thus not simply a function of what parents provide—children themselves play a highly active role in both initiation and terminating activities, not to mention in the roles they take with their social partners.

Time. The final element in Bronfenbrenner's theory is time. In part this involves what Bronfenbrenner has termed the chronosystem—setting the research into its historical setting, and examining the development of different cohorts. Most important, however, is the study of development over time, with data gathered at a minimum of two points in time. Cross-sectional studies, while informative about groups that differ by age, only infer development rather than study it directly.

How have we instantiated Bronfenbrenner's PPCT model? In terms of context, we have examined children's development in a number of different societies (the United States, Russia, Estonia, Finland, Korea, and Kenya, and are planning to collect similar data in Porto Alegre, Brasil) and, in each society, focused on a minimum of two groups (families that by educational and occupational criteria we defined as either middle class or working class). In the United States we are gathered data on both African-American and European-American families. This allows us to examine similarities and differences in children's use of time both in societies that differ in terms of their historical and cultural backgrounds and in groups within each society. In each case we chose a single city from which to draw our participants, one of medium size with a range of cultural, educational, and occupational opportunities. Families were chosen from selected communities within each city, with each family having a 2- to 3-year-old child when the study started.

We examined two aspects of process. To draw the connections between the contextual factors of interest and the ways in which parents and other significant others acted with their children we examined the parents' child-rearing values and beliefs, using both interviews and questionnaires. Of greater importance to the study, however, is our focus on proximal processes, or the everyday activities in which children engage, either alone or with those around them. The observational methods that we used will be described below, but they allowed us to get a reasonable sense of the types of activities that typically went on around the children, the activities in which the children actually engaged, the manner in which they became engaged, their social partners, and the children's and others' roles in the activities.

In terms of person characteristics, we examined one personal stimulus characteristics (the child's gender), the parents' perception of their child's temperament (although this will not be discussed in this paper) and one developmentally instigative characteristic (the extent to which the children initiated their own involvement in the activities, a measure of self-directedness).

Finally, we considered time in two ways. The passage of historical time has profound effects in all societies, of course, although in some societies the pace of change is particularly evident. For example, the Russian and Estonian parents in our study were all raised under the Soviet system (despite their very different cultures, languages, and histories), but are raising their own children in the post-Soviet world. But even though the pace of change has not been so dramatic, the current situation of African American

families in the United States cannot be understood without considering historical factors. Similarly, although most of the data on child-rearing practices in various African nations has been collected in rural regions, urbanization has proceeded apace.

To qualify as a developmental study, however, data must be gathered over time, and an important component of this study is that the children were followed over time. This occurred not simply during the observational part of the study, when the children are of preschool age, but by virtue of the fact that data were (and continue to be) collected once the children reached school age. We are thus able to examine the connections, if any, between the types of activities in which children engaged while of preschool age, and their parents' and teachers' perceptions of their social and academic competence several years later.

Participants

130 children from 28-45 months (at Time 1), and their parents, although in this paper we will discuss only 62 children, from the US, Russia, and Estonia..

- 38 from Greensboro, NC, USA (in this paper we will use data from 20 European-American children, as the longitudinal data from the African-American children is still being collected). Our American colleagues in Greensboro who collected the data are Sarah Putnam, Judy Sidden, Fabienne Doucet, and Nicole Talley.
- 22 from Obninsk, Russia (we will use observational data from just 12 of the children in this paper). Our Russian colleagues are Natasha Kulakova and Irina Snezhkova.
- 20 from Tartu, Estonia. Our Estonian colleagues are Marika Meltsas and Peeter Tammeveski.
- 18 from Oulu, Finland. Our Finnish colleagues are Marikaisa Kontio and Johanna Matinmikko.
- 12 from Suwon, Korea. Our Korean colleague is Sueon Lee.
- 20 from Kisumu, Kenya. Our Kenyan colleague is Dolphine Odero.
- In addition, 24 families are to be drawn from a total of 100 families that have been studied from before the birth of their first child in Porto Alegre, Brasil. These children will be studied in exactly the same way as the other children in the study once the children reach 36 months of age. Our Brasilian colleagues are Tania Sperb, Cesar Piccinini, Rita Sobreira, and Luciano Lorenzato.

Nationals of the respective countries, whom Tudge trained in Greensboro, gathered the data in each case. Cities were neither chosen at random nor should they be considered as "representing" the country in which they are situated. Instead, each subsequent city was chosen as an approximate match of the first city in which we collected data, Greensboro. Each city in which we have so far collected data is thus of medium size (100,000 to 700,000 inhabitants), has at least one institution of higher education, and has a similar range of occupational and cultural opportunities. Families were recruited equally from middle class and working class backgrounds, with social class determined by education and occupation criteria. In all cases except Obninsk (where it was not possible) and Porto Alegre, families were drawn from specific neighborhoods of each city by use of birth records. In this presentation we will restrict ourselves to just the Greensboro, Obninsk, and Tartu data as we do not yet have the longitudinal data from the remaining cities.

Methods

Interviews and questionnaires. Parents were interviewed about their work experiences and their goals for their children, although interview data will not be used in this presentation. They also completed a variety of questionnaires, including the Parental Values Q-Sort (derived from Kohn, 1977) and the Parents' Opinion Survey (POS) (Hogan & Tudge, 1994, derived from Luster, 1985). The Q-Sort was designed to assess parents' positive evaluation of self-direction, and the POS asked questions regarding more specific beliefs about how to raise children, including giving children freedom in and around the home, the importance of controlling and disciplining children, and the extent to which parents believe that their children can be spoiled by giving them too much attention.

Because the measures were all developed in the United States, we were concerned about translation issues and subtle changes in meaning. For this reason, measures were translated and then back-translated, followed by discussion about the meaning.

Observations. Families were asked to keep their daily routines unchanged as much as possible during the observation period. Each child was observed, wherever he or she was, for 20 hours over the

course of a week to capture the equivalent of an entire waking day (the final two hours were videotaped, rather than coded live). Observations were continuous in 2- and 4-hour blocks, but activities were only coded during 30-second "windows" every 5½ minutes, using modified spot observations. The remaining time was used for writing codes and field notes, as well as for observing how activities were initiated and how children became involved in them. During each 30-second window activities were coded as being "available to" the child if they occurred within his or her ear- or eye-shot. Children were coded as being "involved in" the activities if they were physically participating or were observing. As well as observing which activities were available to the child and which he or she became involved in, we coded how activities were initiated and by whom, the manner in which the child became involved in any activity, any partners in activity, their respective roles, and so on.

The activities in which we were interested were lessons (3 categories), work (5 categories), play, exploration, and entertainment (16 categories), conversation (3 categories), and "other" (6 categories, including sleeping, eating, etc.). In brief, lessons were defined as involving the deliberate attempt to impart or receive information in four areas: academic (spelling, counting, learning shapes and colors, etc.); interpersonal (teaching etiquette or "proper" behavior); skill/nature (how things work, why things happen); and religious lessons. Work was broken down into that involving no technology, clear technology (such as sweeping with a broom), or more complex technology (such as using a vacuum cleaner). Play (including exploration and entertainment) was defined as activities that were being engaged in for fun or for their own sake, with no apparent curriculum (which would constitute a lesson). Types of play included pretend/role play, play with academic object (such as looking at a book), play with objects typically designed for children, play with adult objects, other types of play (such as chase or rough and tumble), and watching television. Thus a child looking at a book or being read to would be coded as engaging in "play with an academic object" whereas the child asking what a particular word was, or being asked to name the colors would be coded as being involved in an academic lesson. Conversation was defined as talk involving several exchanges about a topic that was not about the current activity, but about the past or future rather than incidental chat accompanying play or work. During any 30-second window, more than one activity could occur and could be coded.

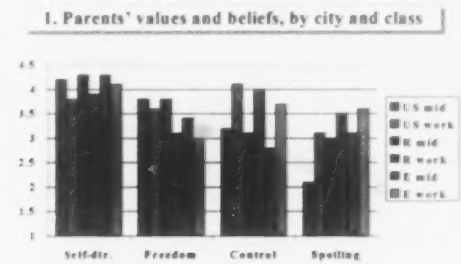
In addition to documenting similarities and differences in children's everyday activities, we wished to identify variability in those activities that might be expected to relate to later academic competence. Accordingly, we examined with particular interest the academic and skill/nature lessons in which children were involved, their play with academic objects, and their conversation with adults. Although learning is likely to occur from any activity in which a young child engages, of all the activities that we coded, these four were believed to be the most "school-relevant."

Outcome measures. Because data gathering started at different times in the different cities, we only have the longitudinal data from Greensboro, Obninsk, and Tartu. In these cities, after the children had entered their first year of formal school (typically three to four years after the observations had been conducted) we again interviewed the parents and (in Obninsk and Tartu) the teachers. The interview data will not be used in this presentation. We also gathered questionnaire data from parents and teachers, using the Social Skills Rating System (SSRS, Gresham & Elliott, 1990), and in this presentation we will use sub-scale showing the teachers' perceptions of the children's academic competence. The SSRS was also back-translated and discussed to ensure similarity of meaning.

Results

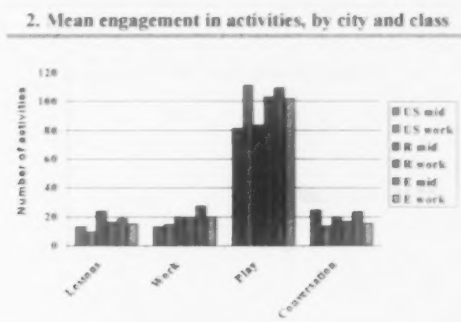
As hypothesized, middle class parents in Greensboro, Obninsk, and Tartu were more likely to value self-direction for their children and were more interested in freedom in and around the home for their children (see Figure 1). By contrast, working class parents in each city were more likely to be interested in controlling and disciplining their children and were more likely to believe that their children could be spoiled by being given too much attention. These social class differences were far more striking than any variations among the cities, although Greensboro middle class parents were much less likely to be concerned about spoiling their children than were the other groups of parents.

Figure 1



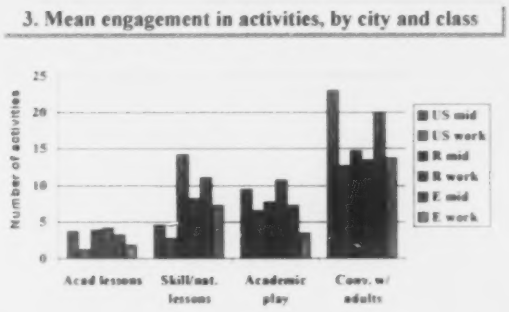
As can be seen from Figure 2, there was a good deal of similarity among the groups in terms of the activities in which the children engaged. Not surprisingly, given the age of the children, they all spent the majority of their time in one or other form of play (including exploration and entertainment), with types of lessons, work, and conversation occupying much less of their time. We have not included engagement in activities in which we were less interested, such as eating, sleeping, being bathed, and so on.

Figure 2



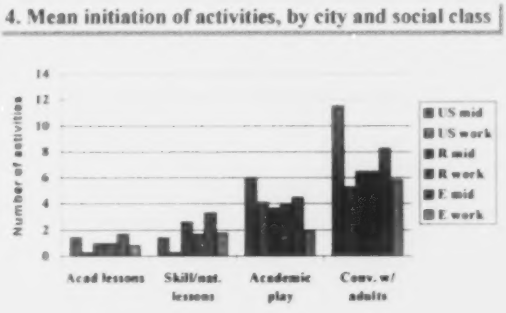
As hypothesized, at least in Greensboro and Tartu, children from middle class homes were more likely than their working class counterparts to be involved in the types of activities that we thought might be related to subsequent academic competence (academic lessons, skill/nature lessons, play with academic objects, and conversation with adults). In Obninsk this was only true for skill/nature lessons; in the remaining cases there were no clear differences between the social class groups. The most striking cross-city variation was that Obninsk and Tartu children were far more likely than those from Greensboro to be involved in skill/nature lessons, whereas Greensboro middle class children were the most likely to be involved in conversation with one or more adult. (See Figure 3.)

Figure 3



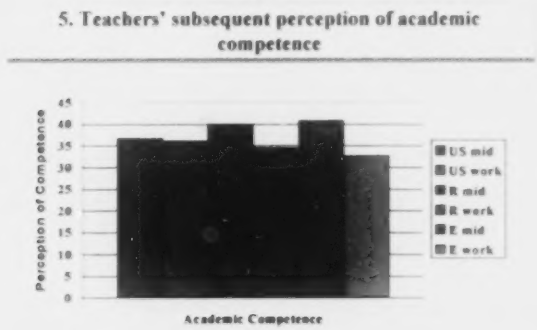
Is it the case that these variations in engagement in activities are simply a result of the fact that the parents from different social class backgrounds had different values and beliefs? In other words, are these findings simply explained by the parents' social address? From an ecological point of view, we should expect that children are more actively involved in their own development. We therefore hypothesized that at least some of the variation in children's engagement in activities would be due to differential initiation of the activities by the children themselves. As shown in Figure 4, this prediction was supported in both Greensboro and Tartu, although not in Obninsk, where social class seemed to have minimal effect on children's initiation of these activities.

Figure 4



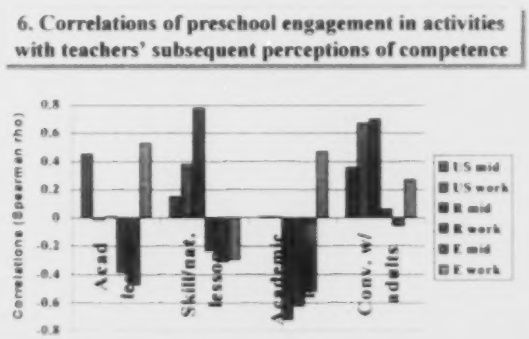
What happened when the children went to school? At the end of their first year we asked the parents and teachers to assess how the children were doing, behaviorally, socially, and academically. Here we will just talk about the teachers' perceptions of the children's academic competence. As can be seen in Figure 5, in both Obninsk and Tartu (but not in Greensboro), children from middle class families were likely to be viewed as academically more competent than were children from working class families.

Figure 5



Although these findings are interesting (and will be discussed in more detail later), of more interest was the relation, if any, between engagement and initiation of these activities and the teachers' perception of the children's academic competence several years later. These data reveal interesting city and social class variations. As shown in Figure 6, the data are clearest with regard to Greensboro. Correlations with teachers' perceptions of competence are reasonably high (above .35) for middle class children's engagement in academic lessons and conversation and for working class children's engagement in skill/nature lessons and conversation. Interestingly, play with academic objects was unrelated to subsequent competence in the United States, and was negatively related to competence in the other groups with the exception of the Tartu working class children. (Spearman's rho was used to prevent outliers from exerting extreme influence on the correlation size, one possible concern given the small group sizes.)

Figure 6

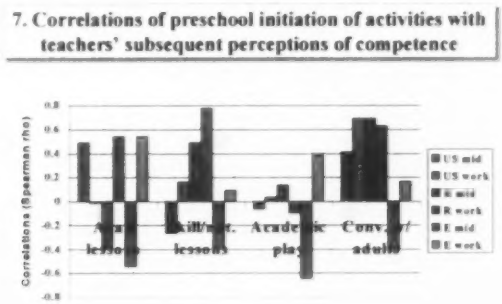


The data are less clear with regard to Obninsk, where working class children who engaged in more academic lessons were actually viewed as less competent by their teachers. The same was true for both middle and working class children in terms of engagement in play with academic objects. On the other hand, teachers viewed middle class children in Obninsk who engaged in more skill/nature lessons and in more conversation as more competent. This was not true of the working class children however.

In the case of Tartu, the pattern of results is different from those in the other cities, although social class differences are striking. In terms of engagement in academic lessons and play with academic objects the correlations are quite high (above .4) but in the opposite directions for the two social class groups. For middle class children the greater the engagement the less competent their teachers perceive them three years later, whereas the more of these activities in which working class children engaged the more competent their teachers perceived them to be.

Turning to the children's initiation of these activities, the results are, for the most part, similar to those just discussed. However, as seen in Figure 7, Obninsk working class children who initiated academic lessons (by asking questions), skill/nature questions, and conversation with adults were clearly viewed as more competent by their teachers. For these children, simple engagement in these activities when initiated by someone else was not associated with later competence; what mattered for them was their own initiation of these activities.

Figure 7



For the Tartu children, however, the pattern of social class differences seen with regard to engagement in these activities was, if anything, magnified. In each case middle class children in Tartu who had initiated more academic lessons, more skill/nature lessons, more play with academic objects, and more conversation with adults were subsequently viewed as less competent by their teachers. This was not the case for working class children, however, for whom initiation of academic lessons and play with academic objects was associated with teachers' perceptions of competence.

Discussion and Conclusion

One general point that needs to be made is that these data come from rather small numbers of participants. We therefore need to be careful before basing too much interpretive weight on these findings. Moreover, the low numbers might make one unwilling to accept the generality of these findings. The goal of the project, however, was not to discover some universal characteristics of human development. Instead it was to examine the long-term effects of the typically occurring activities of children drawn from communities that were carefully selected to capture salient ecologies from the chosen cities. The cities, moreover, were selected to be as similar as could be arranged; we wanted to examine cultural similarities and differences that were not affected by rural-urban differences, capital city vs. villages, and so on.

In terms of parents' values and beliefs and the activities in which the children engaged, what was striking was that the across-city differences were rather small compared to the within-city differences linked to social class. This was true even in Obninsk and Tartu, in societies in which class was traditionally not viewed as playing a large role in the manner of raising children. Moreover, compared to Greensboro, in which class was linked not only to education and occupation (as was true in all cases) but also to income, neighborhood, and housing, in both Obninsk and Tartu class differences were distinguished solely by education and occupation differences. Nonetheless, these data clearly show the importance of social class in each of the cities.

The class-related nature of the observational data is clearest in Greensboro and Tartu. Middle class children both engaged in and initiated more of these four activities than did their working class

counterparts. In the case of Obninsk this was true only for engagement in and initiation of skill/nature lessons. We think that the differences between Obninsk and Tartu can best be explained by what has occurred since the break-up of the former Soviet Union. In Obninsk, as in virtually all Russian cities, life has in many ways become harder in the past decade. Those few Russians who have clearly benefited from the changes are those who have ties to Western organizations, to control of the means of production, and/or to criminal groups. In Obninsk social class, as indexed by education and occupation, has little to do with a clearly-differentiated lifestyle. Many parents (those with higher education and those without) have to work at several jobs just to make enough income, and some fathers have had to leave in order to find reasonably well-paying work.

In Tartu, by contrast, as in the other Estonian cities, class differences have started to re-manifest themselves. Estonia had been a capitalist society prior to the Second World War, and although industrialization only proceeded rapidly following its forced integration into the Soviet Union at the end of the war, that process of industrialization itself imposed class distinctions. Nonetheless, as in the rest of Soviet society, class distinctions (though not eliminated) were minimized. Thus, a decade ago professors at the University of Tartu were to be found living in the same apartment complexes as janitors and kitchen workers. Since the end of the 1980s Estonians have been able to revitalize the still-surviving class structure, with the assistance of those in power who present capitalism and thus the class structure as indispensable. Now professors are more likely to be found in the elegant new homes that are springing up in some parts of the city. Perhaps more relevant, the expectation in Tartu is that a good education is important not only in its own right (a view that is just as likely to be found in Obninsk) but that it will lead to a relatively prestigious and well-paying job. In Obninsk many of the parents also believe that a good education will lead to a well-paying job, despite the current lack of connection between higher education and income.

Some city-wide differences are also worth noting, however, including the fact that in both Obninsk and Tartu children were far more likely to be involved in skill/nature lessons than those in Greensboro. The explanation for this difference can also be found in what are perhaps society-wide differences. In both cities of the former Soviet Union, traditionally and still today families' food supplies are augmented by what can be grown on small plots of land. Parents encourage their children, even those as young as three and four, to help out on occasion, and children are likely to know the importance of raising these crops. Similarly, broken or worn household items are far more likely to be repaired by family members in Obninsk or Tartu than is likely to be found in Greensboro, where families have far more disposable income with which to replace those items. Another noteworthy finding is that the Greensboro middle class children were far more likely to initiate conversation with an adult than children from any other group, and also engaged in conversation with adults more than other children. This propensity has, of course, been noted by many other scholars. In Obninsk children were more likely than in any other city to have academic lessons and engage in play with academic objects. This might be a reflection of the view, first espoused in the 1960s in Russia and still very popular today, that creative and intellectual talents are not only best fostered early but that the opportunity to express potential talents inevitably declines unless actively encouraged.

Greatest interest is naturally in the long-term consequences of engagement in and initiation of these various activities while the children were between three and four years of age. Interesting differences emerged in the three cities, in that only in Obninsk and Tartu were middle class and working class children distinguished in terms of their academic competence by their teachers. As might be expected, the differences can be explained with reference to the cultural context in each city. In Greensboro, as already mentioned, the children in the study came from clearly middle class or working class neighborhoods. And because most children in Greensboro go to their local neighborhood school middle class parents ensure that their children go to a "middle class" school simply by living in a middle class neighborhood. Alternatively, they can pay for private education, if they believe that that is better, or can place their children into one of the "magnet" schools—a school with extra resources placed in working class and predominantly African-American areas of the city as a way of encouraging integration. The result is that middle class children tend to be in the same schools as other middle class children, and working class children go to schools with predominantly working class populations. As teachers were asked to rate the children in the study by comparison with others in the classroom, the working class

children were compared with other working class children and middle class children were compared with other middle class children. In a situation such as this, one should not expect teachers to rate the children in the study particularly higher or lower than others in the class.

In Obninsk, by contrast, schools are not segregated by social class; children from middle class and working class backgrounds are likely to be found in the same classrooms. Given our definition of social class (based on education and occupation), it is not surprising to find that children from homes of more educated parents are perceived by their teachers to be somewhat more academically advanced. The situation in Tartu, however, is not so easy to explain. In the decade since Estonian independence society has become more class-oriented, and some schools are clearly perceived as more "middle class" than others, with middle class parents trying hard to get their children enrolled in them. As in Greensboro, then, the middle class children in our study were being compared to other middle class children and the working class children to other working class children. It is in Tartu, however, that the biggest class differences were found. The explanation may well stem from the increasingly class-based nature of Estonian society, for the teachers are clearly aware of the social class backgrounds of the children they are teaching, and may be perceiving the working class children less favorably. We should stress, however, that this is only a supposition—we collected no data that would allow a test of this hypothesis.

Similarities or differences between the social class groups in each city are perhaps less interesting than the relations between initiation of and engagement in activities and teachers' subsequent perceptions of competence, however, for in all social class groups there was wide variation in the teachers' perceptions. The results were intriguing. In Greensboro children who engaged in and initiated both types of lessons and conversation with one or more adults were perceived by their teachers to be more academically competent once they had entered formal schooling. Social class was important here too, because the association was only found academic lessons in the case of middle class children whereas skill/nature lessons were only associated with competence for the working class children. Also noteworthy was the fact that play with academic objects was not at all associated with competence. In other words, those activities that necessarily involved verbal interaction with someone else (typically an adult) were associated with later competence. By contrast, simply engaging with an object that had academic significance (whether looking at a book or playing with a calculator) did not seem to matter in terms of later competence. (The associations were also found in the third wave of data collection in Greensboro, in slightly magnified form—Tudge, Odero, Hogan, & Etz, under review.)

We were somewhat surprised to find that in Obninsk and Tartu the patterns were in many ways different, with some major class differences revealed, particularly in Tartu. In Obninsk engagement in and initiation of skill/nature lessons and conversation with adults was associated with later perception of success, but engagement in academic play was negatively associated. The most likely possibility is that the Obninsk parents who were concerned that their children might need extra help in school tried to compensate for the children's perceive weakness by getting their children to look at books, and so on. It is interesting that no negative association was found for the Obninsk children's initiation of play with academic objects, which supports the view that it is only when the parents took a more active role in getting their children to read (thinking that their children might need extra help) that the negative association was found.

The most interesting pattern of results, however, was found in Tartu where almost without exception the correlations were in the opposite direction for the middle class and working class children. Fairly consistently, among the working class children the more of these activities in which they engaged the better their teachers perceived them to be, whereas among the middle class children the pattern tended to be reversed. The explanation, we think, has to do with the nature of Estonian society—and in particular the increasingly class-based nature of life in Tartu.

Even in the Soviet era some schools were known to be better schools than others and members of the intelligentsia tried, by whatever means they could, to get their children into those schools. Currently in Tartu one elementary school is known as the "elite" school and three others have very good reputations. The remaining schools are less highly considered. As mentioned earlier, middle class parents are very concerned to get their children into these schools and, in seven of the 10 cases, were successful. By contrast, only two of the working class children in our study had entered these schools. What determines whether children go to one of these schools or not? Children may apply, and are interviewed and tested by

the schools, with only those viewed as being "the best" accepted into the elite school. How do the parents ensure that their children enter these schools? The explanation may be that those middle class parents who view their children as being in need of some assistance to get them prepared for the entrance test take steps accordingly while the children are still of preschool age, giving them various types of lessons, providing plenty of opportunities for playing with academic toys, and so on. This approach is successful, in that the children are allowed to enter these good schools but, compared to those children who did not need this type of coaching, they are viewed as less competent by their teachers.

An alternative explanation, at least for the negative correlation between teachers' perceptions and the middle class children's engagement in conversation, is that the discipline required in the two types of schools might be different. If the more prestigious schools encouraged more listening in silence, this might have a negative impact on the middle class children who had been encouraged to talk more as preschoolers. For example, their teachers may view them as being inappropriately "chatty" in school and this type of negative labeling might color the teachers' assessment of their academic performance. One of the Tartu middle class parents pointed out, however, that their son appeared to have been selected at least partially on the basis of his willingness to speak out!

The working class parents are also interested in the quality of their children's education. However, as one mother explained why she did not try to get her daughter into the elite school, this school is already viewed as being only for children of highly-educated parents (the intelligentsia). In support of this perception, one of the selection criteria is undoubtedly family background; teachers are likely to believe that well-educated parents are more able to help their children effectively if and when the children experience academic difficulties. Moreover, the shared social background of middle class teachers and parents is also likely to increase the chances that middle class children will be selected. If the working class parents in Tartu are not trying to prepare their children for the entrance tests needed for the best schools there is no particular reason for giving the apparently "weaker" children additional help. In this case, those working class children who had more academic lessons, play with academic objects, and conversation were thus seen as being more competent by their teachers.

In neither Greensboro nor Obninsk is there homogeneity of schools, of course. In Greensboro elementary schools vary widely, as mentioned earlier, with most children going to their local neighborhood school. Selection by testing does not occur, however, and so there is no reason to coach children who are viewed as in need of extra help to get into a particular school. (Parental assistance clearly occurs after children have entered school, of course, but our observations only took place when the children were much younger.) Obninsk, since the break-up of the Soviet Union, has witnessed the establishment of different types of schools. However, children either go to the closest school (which cannot be described as catering to any particular class because of the mix of social classes in all areas of the city) or, if the parents can afford it, can enter a private school. Entrance to such a school, however, has nothing to do with entrance tests, obviating the need to prepare children who might be seen as in need of help.

In conclusion, we want to return to the theory that informed this research. Each of the elements of the PPCT design that is the foundation of Bronfenbrenner's ecological systems theory has revealed itself as necessary for making sense of these children's development. At the heart of the study is the examination of what was actually going on in these children's lives when they were preschoolers. Their everyday activities, and in particular their engagement in different types of lessons, play, and conversation, have clear implications for how they are subsequently perceived once they enter school. These are the proximal processes that Bronfenbrenner termed the engines of development.

Why do children engage in some activities and not others? In part because of what parents do, and this clearly is in part a function of their values and beliefs. However, it is also a function of what the children want to do, and their role in initiating some activities and not others. In general it seems to be the case that the simple provision of academic lessons or engaging in conversation, while important, may be less important than the children's own initiation of these things. As is seen in these data, examining what the child brings to bear allows us to understand better the effects of engagement.

The effects of both engagement in and initiation of activities, however, are not straightforward, but are moderated by contextual variation. Context, clearly, plays a highly important role, allowing us to understand the role both of social class and of the differing lives of the participants living in each of these

cities. Without knowing something about the specific contexts it is difficult to make sense of these data. The same is true, of course, of time. The passage of time, thus allowing an understanding of development itself, is a necessary component of this longitudinal study. However, time in its historical sense plays an equally large role, allowing us to examine the different trajectories of cities from two societies that were once part of the former Soviet Union. Without placing the study into its historical, as well as its social, context, we would be far less able to make sense of these data.

More details of the data from this project can be found in the following publications, or you may contact me by e-mail: jonathan_tudge@uncg.edu

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